AMENDMENTS TO THE CLAIMS

Please replace all prior versions of the claims with the following claim listing:

In the Claims

1. (Currently Amended) A mechanical draft system comprising:

an intake fan ~~for drawing~~ operative to draw air from outside a mechanical room into the mechanical room;

a ~~plurality of heating appliances, each~~ first heating appliance having ~~an~~ a first air intake ~~for drawing~~ operative to draw air from the mechanical room into the first heating appliance and having ~~an~~ first air exhaust ~~for exhausting~~ operative to exhaust air out of the first heating appliance;

a second heating appliance having a second air intake operative to draw air from the mechanical room into the second heating appliance and having a second air exhaust operative to exhaust air out of the second heating appliance;

ducts, connected to the first and second air exhausts ~~of the heating appliances~~, ~~for transporting~~ operative to transport air outside the mechanical room;

an exhaust fan, connected to the ducts, for drawing air from the ducts to the atmosphere;

a first pressure sensor, located within the mechanical room, for supplying a first pressure reading;

a second pressure sensor, located within the atmosphere, for supplying a second pressure reading;

a differential transducer ~~for receiving a~~ operative to receive the first pressure reading ~~from inside the mechanical room~~ and [[a]] the second pressure reading ~~from the atmosphere~~, the differential transducer outputting a differential pressure signal indicative of the difference between the first and second pressure readings; and

a pressure controller ~~for controlling the~~ operative to control a speed of the intake fan, ~~the~~ a speed of the exhaust fan, and ~~the~~ operation of the ~~plurality of~~ first and second heating appliances in response to the differential pressure signal;

wherein the pressure controller is selectively operative in a rotation check mode in which at least one of the intake fan and the exhaust fan is provided with less than normal operating power in order that such fan rotates at less than normal operating speed such that a direction of rotation of the fan can be visually confirmed by an operator.

2. (Previously Amended) The mechanical draft system of claim 1, further comprising:

an intake fan interface connected between the pressure controller and the intake fan;

an exhaust fan interface connected between the pressure controller and the exhaust fan; and

a plurality of appliance interfaces, each appliance interface connected between the pressure controller and the respective heating appliance.

3. (Original) The mechanical draft system of claim 2, wherein the intake fan interface and exhaust fan interface are configured to indicate to the pressure controller the presence of the respective fan, to indicate to the pressure controller whether the respective fan is operating properly, and to indicate to the pressure controller the speed of the respective fan.

4. (Currently Amended) The mechanical draft system of claim 2, wherein the appliance interfaces are configured to indicate to the pressure controller the presence of the respective heating appliance and to indicated to the pressure controller whether the respective heating appliance is running.

5. (Canceled)

6. (Previously Amended) The mechanical draft system of claim 1, further comprising:

a plurality of adjustable baffles, each adjustable baffle corresponding to a respective appliance and connected in the air exhaust of the respective heating appliances; and

a modulating damper connected in the ducts;

wherein the pressure controller controls the position of the adjustable baffles and modulating damper.

7. (Currently Amended) A pressure controller for controlling the flow of air through a mechanical draft system, the pressure controller comprising:

an appliance controller configured to control the operation of a plurality of appliances;

an intake fan controller configured to control the speed of an intake fan;

an exhaust fan controller configured to control the speed of an exhaust fan; and

a processor configured to receive a differential pressure signal and to control the operation of the plurality of appliances, the speed of the intake fan, and the speed of the exhaust fan in response to the differential pressure signal;

wherein the processor is further operative to control at least one of the intake fan and the exhaust fan in a bearing cycle mode in which, responsive to the processor determining that at least one of the intake fan and the exhaust fan has been inactive for a threshold time duration, the fan that has been inactive is activated such that internal components of that fan are lubricated.

8. (Original) The pressure controller of claim 7, further comprising:

at least one input device configured to receive inputs for establishing operation parameters of the mechanical draft system; and

at least one display device configured to display operation conditions of the mechanical draft system.

9. (Original) The pressure controller of claim 7, wherein the appliance controller controls up to six appliances.

10. (Original) The pressure controller of claim 9, further comprising a relay board, wherein the appliance controller and relay board control up to ten appliances.

11. (Original) The pressure controller of claim 9, further comprising an external communication link for connection with one or more relay boxes, wherein the appliance controller and relay boxes control more than ten appliances.

12. (Original) The pressure controller of claim 7, wherein the plurality of appliances comprises boilers, furnaces, water heaters, or laundry dryers.

13. (Original) The pressure controller of claim 7, further comprising an RS-232 port for connecting the processor to an external processor.

14. (Currently Amended) The pressure controller of claim 7, wherein the processor comprises an input for receiving the differential pressure signal from a differential transducer and wherein the differential pressure signal is the difference in pressure between the atmosphere and a mechanical room in which the plurality of appliances are located.

15. – 19. (Canceled)

20. (Currently Amended) A method for automatically controlling pressure in a mechanical draft system using a pressure controller, the method comprising:

storing a restart priority of each of a plurality of appliances controlled by a pressure controller;

checking a differential pressure between the interior of a mechanical room and the atmosphere;

~~shutting down a plurality of appliances in the mechanical room when the differential pressure exceeds a predetermined threshold; and~~

adjusting ~~the~~ speed of at least one of an intake fan and exhaust fan in the mechanical draft system when the differential pressure is not equalized;

shutting down the plurality of appliances in the mechanical room when the differential pressure exceeds a predetermined threshold; and

restarting the plurality of appliances based on the restart priority of each of the appliances such that, responsive to each of the appliances being restarted, a subsequent one of the appliances is not restarted unless the differential pressure is equalized.

21. (Original) The method of claim 20, further comprising:

maintaining the speed of the intake fan and exhaust fan when the differential pressure is equalized.

22. (Original) The method of claim 20, wherein, when the pressure inside the mechanical room is greater than the pressure in the atmosphere, said adjusting comprises at least one of:

decreasing the speed of the intake fan; and

increasing the speed of the exhaust fan.

23. (Original) The method of claim 20, wherein, when the pressure in the atmosphere is greater than the pressure inside the mechanical room, said adjusting comprises at least one of:

increasing the speed of the intake fan; and

decreasing the speed of the exhaust fan.

24. (Original) The method of claim 23, further comprising:

adjusting the position of adjustable baffles in exhaust ducts from each appliance.

25. (Original) The method of claim 20, further comprising:

adjusting the position of a modulating damper when the differential pressure is not equalized.

26. - 30. (Canceled)

31. (New) The mechanical draft system of claim 1, wherein the pressure controller is further operative to control at least one of the intake fan and the exhaust fan in a bearing cycle mode in which, responsive to the processor determining that at least one of the intake fan and the exhaust fan has been inactive for a threshold time duration, the fan that has been inactive is activated such that internal components of that fan are lubricated.

32. (New) The mechanical draft system of claim 1, wherein the pressure controller if further operative to:

shut down the first and second heating appliances in the mechanical room when the differential pressure exceeds a predetermined threshold; and

restart the appliances based on a restart priority such that, responsive to one of the appliances being restarted, a subsequent one of the appliances is not restarted unless the differential pressure is equalized.